LTC 2821/91

Security Systems

EN | Instruction Manual
21 Inch
Color Monitor

BOSCH

Important Safeguards

1. **Read, Follow, and Retain Instructions** - All safety and operating instructions should be read and followed before operating the unit. Retain instructions for future reference.
2. **Heed Warnings** - Adhere to all warnings on the unit and in the operating instructions.
3. **Attachments** - Attachments not recommended by the product manufacturer should not be used, as they may cause hazards.
4. **Installation Cautions** - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only manufacturer-recommended accessories, or those sold with the product. Mount the unit per the manufacturer's instructions. Appliance and cart combination should be moved with care. Quick stops, excessive force, or uneven surfaces may cause the appliance and cart combination to overturn.
5. **Cleaning** - Unplug the unit from the outlet before cleaning. Follow any instructions provided with the unit. Generally, using a damp cloth for cleaning is sufficient. Do not use liquid cleaners or aerosol cleaners.
6. **Servicing** - Do not attempt to service this unit yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
7. **Damage Requiring Service** - Unplug the unit from the main AC power source and refer servicing to qualified service personnel under the following conditions:
   - When the power supply cord or plug is damaged.
   - If liquid has been spilled or an object has fallen into the unit.
   - If the unit has been exposed to water and/or inclement weather (rain, snow, etc.).
   - If the unit does not operate normally, when following the operating instructions. Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may result in damage, and require extensive work by a qualified technician to restore the unit to normal operation.
   - If the unit has been dropped or the cabinet damaged.
   - If the unit exhibits a distinct change in performance, this indicates that service is needed.
8. **Replacement Parts** - When replacement parts are required, the service technician should use replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electrical shock or other hazards.
9. **Safety Check** - Upon completion of servicing or repairs to the unit, ask the service technician to perform safety checks to ensure proper operating condition.
10. **Power Sources** - Operate the unit only from the type of power source indicated on the label. If unsure of the type of power supply to use, contact your dealer or local power company.
    - For units intended to operate from battery power, refer to the operating instructions.
    - For units intended to operate **with External Power Supplies**, use only the recommended approved power supplies.
    - For units intended to operate with a limited power source, this power source must comply with EN60950. Substitutions may damage the unit or cause fire or shock.
    - For units intended to operate at 24VAC, normal input voltage is **24VAC**. Voltage applied to the unit's power input should not exceed 30VAC. User-supplied wiring, from the 24VAC supply to unit, must be in compliance with electrical codes (Class 2 power levels). Do not ground the 24VAC supply at the terminals or at the unit's power supply terminals.
11. **Coax Grounding** - If an outside cable system is connected to the unit, ensure that the cable system is grounded. U.S.A. models only - Section 810 of the National Electrical Code, ANSI/NFPA No.70, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
12. **Grounding or Polarization** - This unit may be equipped with a polarized alternating current line plug (a plug with one blade wider than the other). This safety feature allows the plug to fit into the power outlet in only one way. If unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the polarized plug.
    Alternately, this unit may be equipped with a 3-wire grounding plug (a plug with a third pin, for grounding). This safety feature allows the plug to fit into a grounding power outlet only. If unable to insert the plug into the outlet, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the grounding plug.
13. **Lightning** - For added protection during a lightning storm, or when this unit is left unattended and unused for long periods of time, unplug the unit from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.

For Indoor Product

1. **Water and Moisture** - Do not use this unit near water - for example, in a wet basement, in an unprotected outdoor installation or in any area classified as a wet location.
2. **Object and Liquid Entry** - Never push objects of any kind into this unit through openings, as they may touch dangerous voltage points or short out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the unit.
3. **Power Cord and Power Cord Protection** - For units intended to operate with 230VAC, 50Hz, the input and output power cord must comply with the latest versions of IEC Publication 227 or IEC Publication 245.
   Power supply cords should be routed so they are not likely to be walked on or pinched. Pay particular attention to location of cords and plugs, convenience receptacles, and the point of exit from the appliance.
4. **Overloading** - Do not overload outlets and extension cords; this can result in a risk of fire or electrical shock.

For Outdoor Product

Power Lines - An outdoor system should not be located in the vicinity of overhead power lines, electric lights or power circuits, or where it may contact such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching power lines or circuits, as this contact might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.

For Rack-mount Product

1. **Ventilation** - This unit should not be placed in a built-in installation or rack, unless proper ventilation is provided, or the manufacturer's instructions have been adhered to. The equipment must not exceed its maximum operating temperature requirements.
2. **Mechanical Loading** - Mounting of the equipment in a rack shall be such that a hazardous condition is not achieved due to uneven mechanical loading.

Safety Precautions

CAUTION
RISK OF ELECTRIC SHOCK. DO NOT OPEN!

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates the presence of uninsulated "dangerous voltage" within the product's enclosure. This may constitute a risk of electric shock.

The user should consult the operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.

Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.

FCC & ICES INFORMATION

(U.S.A. and Canadian Models Only)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his expense.

Intentional or unintentional changes or modifications, not expressly approved by the party responsible for compliance, shall not be made. Any such changes or modifications could void the user's authority to operate the equipment. If necessary, the user should consult the dealer or an experienced radio/television technician for corrective action. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: How to Identify and Resolve Radio-TV Interference Problems. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

WARNING: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take adequate measures.

Sécurité

ATTENTION

RISQUE D'ÉLECTROCUTION.
NE PAS OUVRIR !

ATTENTION : POUR ÉVITER TOUT RISQUE D'ÉLECTROCUTION, N'ESSAYEZ PAS DE RETIRER LE CAPOT (OU LE PANNEAU ARRIÈRE). CET APPAREIL NE CONTIENT AUCUN COMPOSANT SUSCEPTIBLE D'ÊTRE RÉPARÉ PAR L'UTILISATEUR. CONFIEZ LA RÉPARATION DE L'APPAREIL À DU PERSONNEL QUALIFIÉ.

Ce symbole signale que le produit renferme une « tension potentiellement dangereuse » non isolée susceptible de provoquer une électrocution.

Ce symbole invite l'utilisateur à consulter les instructions d'utilisation et d'entretien (dépannage) reprises dans la documentation qui accompagne l'appareil.

Attention : l'installation doit exclusivement être réalisée par du personnel qualifié, conformément au code national d'électricité américain (NEC) ou au code d'électricité local en vigueur.

Coupure de l'alimentation. Qu'ils soient pourvus ou non d'un commutateur ON/OFF, tous les appareils reçoivent de l'énergie une fois le cordon branché sur la source d'alimentation. Toutefois, l'appareil ne fonctionne réellement que lorsque le commutateur est réglé sur ON. Le débranchement du cordon d'alimentation permet de couper l'alimentation des appareils.

Sicherheitshinweise

VORSICHT

ELEKTRISCHE SPANNUNG.
NICHT ÖFFNEN!

VORSICHT: UM EINEN ELEKTRISCHEN SCHLAG ZU VERMEIDEN, IST DIE ABDECKUNG (ODER RÜCKSEITE) NICHT ZU ENTFERNEN. ES BEFINDEN SICH KEINE TEILE IN DIESEM BEREICH, DIE VOM BENUTZER GEWARTET WERDEN KÖNNEN. LASSEN SIE WARTUNGSARBEITEN NUR VON QUALIFIZIERTEM WARTUNGSPERSONAL AUSFÜHREN.

Das Symbol macht auf nicht isolierte „gefährliche Spannung" im Gehäuse aufmerksam. Dies kann zu einem elektrischen Schlag führen.

Der Benutzer sollte sich ausführlich über Anweisungen für die Bedienung und Instandhaltung (Wartung) in den begleitenden Unterlagen informieren.

Achtung! Die Installation sollte nur von qualifiziertem Kundendienstpersonal gemäß jeweils zutreffender Elektrovorschriften ausgeführt werden.

Unterbrechung des Netzanschlusses. Geräte mit oder ohne Netzschalter haben Spannung am Gerät anliegen, sobald der Netzstecker in die Steckdose gesteckt wird. Das Gerät ist jedoch nur betriebsbereit, wenn der Netzschalter (EIN/AUS) auf EIN steht. Wenn das Netzkabel aus der Steckdose gezogen wird, ist die Spannungszuführung zum Gerät vollkommen unterbrochen.

Precauciones de Seguridad

ATTENZIONE

PERICOLO DI SCOSSA ELETTRICA.
NON APRIRE.

PRECAUCIÓN: PARA DISMINUIR EL RIESGO DE DESCARGA ELÉCTRICA, NO RETIRE LA CUBIERTA (NI LA PARTE POSTERIOR). NO EXISTEN PIEZAS DE RECAMBIO EN EL INTERIOR DEL EQUIPO. EL PERSONAL DE SERVICIO CUALIFICADO SE ENCARGA DE REALIZAR LAS REPARACIONES.

Este símbolo indica que existen puntos de tensión peligrosos sin aislamiento dentro de la cubierta de la unidad. Estos puntos pueden constituir un riesgo de descarga eléctrica.

El usuario debe consultar las instrucciones de funcionamiento y mantenimiento (reparación) en la documentación que se suministra con el aparato.

Atención: la instalación la debe realizar únicamente personal cualificado de conformidad con el National Electric Code o las normas aplicables en su país.

Desconexión de la alimentación. Las unidades con o sin interruptores de encendido/apagado reciben alimentación eléctrica siempre que el cable de alimentación esté conectado a la fuente de alimentación. Sin embargo, la unidad sólo funciona cuando el interruptor está en la posición de encendido. El cable de alimentación es la principal fuente de desconexión de todas las unidades.

Veiligheidsmaatregelen

VOORZICHTIG

GEVAAR VOOR ELEKTRISCHE SCHOK. NIET OPENEN!

VOORZICHTIG: OPEN DE BEHUIZING OF DE ACHTERKANT VAN HET APPARAAT NIET. ZO VERMINDERT U HET RISICO OP ELEKTRISCHE SCHOKKEN. IN HET APPARAAT BEVINDEN ZICH GEEN ONDERDELEN DIE U ZELF KUNT REPAREREN. LAAT SERVICE EN ONDERHOUD UITVOEREN DOOR GEKWALIFICEERD PERSONEEL.

Dit symbool geeft aan dat er binnen in het apparaat ongeïsoleerde, gevaarlijke spanning aanwezig is die mogelijk elektrische schokken kan veroorzaken.

De gebruiker dient de bedienings- en onderhoudsvoorschriften te raadplegen in de documentatie die werd meegeleverd met het apparaat.

Attentie: het apparaat mag alleen door gekwalificeerd personeel worden geïnstalleerd. De installatie dient in overeenstemming met de nationale elektrische richtlijnen of de van toepassing zijnde lokale richtlijnen te worden uitgevoerd.

Spanning uitschakelen. Apparatuur met of zonder aan-uitschakelaar staat onder spanning zolang de stekker is aangesloten op de wandcontactdoos. De apparatuur is uitsluitend in werking als de aan-uitschakelaar aan staat. Het netsnoer is de "hoofdschakelaar" voor alle apparatuur.

Medidas de Segurança

CUIDADO

RISCO DE CHOQUE ELÉCTRICO. NÃO ABRIR!

CUIDADO: PARA REDUZIR O RISCO DE CHOQUE ELÉCTRICO, NÃO RETIRE A TAMPA (OU A PARTE POSTERIOR). NO INTERIOR, NÃO EXISTEM PEÇAS QUE POSSAM SER REPARADAS PELO UTILIZADOR. REMETA A ASSISTÊNCIA PARA OS TÉCNICOS QUALIFICADOS.

Este símbolo indica a presença de "tensão perigosa" não isolada dentro da estrutura do produto, o que pode constituir risco de choque eléctrico.

O utilizador deve consultar as instruções de funcionamento e manutenção (assistência) nos documentos que acompanham o aparelho.

Atenção: a instalação deve ser executada apenas por técnicos qualificados da assistência, de acordo com o código eléctrico nacional ou os códigos locais aplicáveis.

Corte de corrente. As unidades com ou sem interruptores ON-OFF (ligar/desligar) recebem corrente sempre que o fio de alimentação está introduzido na fonte de alimentação; contudo, a unidade apenas está operacional quando o interruptor ON-OFF está na posição ON. O fio de alimentação destina-se a desligar a corrente em todas as unidades.

Sicurezza

ATTENZIONE

PERICOLO DI SCOSSA ELETTRICA. NON APRIRE.

ATTENZIONE: PER RIDURRE IL RISCHIO DI SCOSSE ELETTRICHE NON RIMUOVERE LA COPERTURA (O IL PANNELLO POSTERIORE). L'UNITÀ NON CONTIENE COMPONENTI INTERNI RIPARABILI DALL'UTENTE. PER QUALSIASI INTERVENTO, RIVOLGERSI A PERSONALE TECNICO QUALIFICATO.

Questo simbolo indica la presenza di "tensione pericolosa" non isolata all'interno del contenitore del prodotto. Ciò comporta un potenziale rischio di scosse elettriche.

Si consiglia di consultare le istruzioni operative e di manutenzione (interventi tecnici) contenute nella documentazione fornita con il dispositivo.

Attenzione: l'installazione deve essere effettuata esclusivamente da personale tecnico qualificato in conformità con il National Electrical Code o con le normative locali vigenti.

Scollegamento dell'alimentazione. Le unità dotate o sprovviste di interruttori ON-OFF vengono alimentate quando si inserisce il cavo nella presa dell'alimentazione. L'unità è tuttavia in funzione solo quando l'interruttore ON-OFF si trova nella posizione ON. Il cavo di alimentazione costituisce il dispositivo di scollegamento dell'alimentazione principale per tutte le unità.

Zasady Bezpieczeństwa

UWAGA

NIEBEZPIECZEŃSTWO PORAŻENIA PRĄDEM ELEKTRYCZNYM. NIE OTWIERAĆ!

PRZESTROGA: ABY ZMNIEJSZYĆ RYZYKO PORAŻENIA ELEKTRYCZNEGO, NIE NALEŻY ZDEJMOWAĆ POKRYWY GÓRNEJ (ani tylnej). WEWNĄTRZ URZĄDZENIA NIE MA ŻADNYCH ELEMENTÓW, KTÓRE MOGĄ BYĆ NAPRAWIANE SAMODZIELNIE PRZEZ UŻYTKOWNIKA. SERWIS NALEŻY ZLECAĆ WYKWALIFIKOWANYM PRACOWNIKOM OBSŁUGI.

Ten symbol wskazuje na obecność nieizolowanego „niebezpiecznego napięcia" we wnętrzu urządzenia. Napięcie to grozi porażeniem elektrycznym.

Użytkownik powinien zapoznać się z instrukcjami obsługi i konserwacji (serwisu), zamieszczonymi w dokumentacji towarzyszącej urządzeniu.

Uwaga: Instalacja może być wykonywana wyłącznie przez wykwalifikowanych pracowników obsługi, zgodnie z zasadami kodeksu National Electrical Code lub innych obowiązujących norm.

Odłączanie zasilania Niezależnie od wyposażenia w wyłącznik zasilania, prąd do urządzenia jest doprowadzany zawsze, gdy przewód zasilania jest podłączony do źródła zasilania; jednak urządzenie działa tylko wtedy, gdy wyłącznik zasilania jest włączony. Przewód zasilania jest głównym wyłącznikiem zasilania we wszystkich urządzeniach.

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1 UNPACKING

Unpack carefully. This electronic equipment should be handled carefully.

Check to ensure that the following items are included for the model number of the unit ordered.

- Verify the model number.
- Power cord, 3-wire with grounded U.S. type plug.
- Power cord, 3-wire with grounded European Continental type plug.
- Instruction Manual.

If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. If any items are missing, notify your Bosch Security Systems, Inc. Sales Representative or Customer Service Representative. The shipping carton is the safest container in which the unit may be transported. Save it for possible future use.

2 SERVICE

If the unit ever needs repair service, the customer should contact the nearest Bosch Security Systems, Inc. Service Center for authorization to return and shipping instructions.

Service Centers

USA
Phone: 800-366-2283 or 717-735-6638
fax: 800-366-1329 or 717-735-6639
CCTV Spare Parts
Phone: 800-894-5215 or 408-956-3853 or 3854
fax: 408-957-3198
e-mail: BoschCCTVparts@ca.slr.com
Canada
Phone: 514-738-2434
Europe, Middle East & Asia Pacific Region
Phone: 32-1-440-0711
For additional information, see
www.boschsecuritysystems.com.

3 DESCRIPTION

The LTC 2821/91 is a 51cm (20in) high resolution color monitor. It is attractively styled and accepts both NTSC and PAL formats.

4 INSTALLATION

4.1 Power

The LTC 2821/91 operates from 90 to 260VAC, 50/60Hz power sources. Power consumption is 90W.

4.2 Mounting

This unit is supplied as a desktop unit.

4.3 Cover Removal

Removal of the cover, and adjustment of internal controls, should only be performed by qualified service personnel. Not user-serviceable.

5 CONTROLS & CONNECTIONS

5.1 Front Panel

See FIGURE 1 for location of controls and LED Indicator.

POWER

Selects power ON or OFF.

R: VIDEO A
G: VIDEO B
O: VCR

Combination Red, Green, Orange LED Indicator.

VIDEO

Selects the video signal inputs to the VIDEO A and VIDEO B (composite video BNC connectors) and the audio signal inputs to the AUDIO A and AUDIO B terminals (RCA connectors) on the rear panel. When selected, the LED indicates Red for VIDEO A or Green for VIDEO B.

VOLUME/DATA

These buttons have two functions:
Volume control: Press the ▼ or ▲ buttons to adjust the speaker volume.

Data controls: When the SHARP, TINT, COLOR, BRIGHTNESS or CONTRAST buttons are pressed, the ▼ or ▲ buttons will change the level of the selected function.

CONTRAST

Press this button to adjust picture contrast. Adjust the level with the VOLUME buttons to control the image contrast (Default is 60).

BRIGHTNESS

Press this button to adjust picture brightness. Adjust the level with the VOLUME buttons to control the image brightness (Default is 50).

COLOR

Press this button to adjust the picture color intensity. Adjust the level with the VOLUME buttons to control the image color (Default is 50).

TINT (NTSC format only)

Press this button to control the picture color to be close to natural color. Adjust the level with the VOLUME buttons to control the color tint (Default is 50).

SHARP

Press this button to adjust the picture image. Adjust the level using the VOLUME buttons to control the sharpness of the image (Default is 50).

VCR

Selects the video signal input to the VCR (composite video BNC connector) and the audio signal input to the VCR terminal (RCA connector) on the rear panel. When selected, the LED will indicate in Orange.

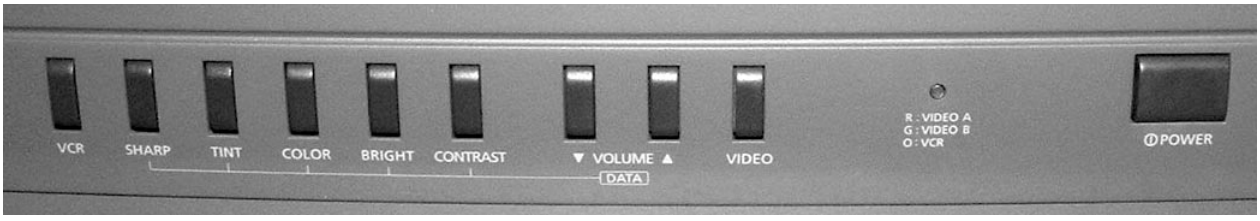

Figure 1 Location of Controls

5.2 Rear Panel

See FIGURE 2 for location of rear panel connectors.

VIDEO LINE

VIDEO A IN/OUT

IN: Video signal input terminal.

OUT: Passive loop-through video signal output terminal (auto termination).

NOTE: For corresponding audio signal, use the AUDIO A terminals.

VIDEO B IN/OUT

IN: Video signal input terminal.

OUT: Passive loop-through video signal output terminal (auto termination).

NOTE: For corresponding audio signal, use the AUDIO B terminals.

VCR IN: Video signal input terminal.

NOTE: For corresponding audio signal, use the AUDIO IN VCR terminal.

AUDIO LINE

AUDIO A IN/OUT

IN: Audio signal input terminal.

OUT: Loop-through audio signal output terminal.

NOTE: For corresponding video signal, use the VIDEO A terminals.

AUDIO B IN/OUT

IN: Audio signal input terminal.

OUT: Loop-through audio signal output terminal.

NOTE: For corresponding video signal, use the VIDEO B terminals.

AUDIO IN VCR: Audio signal input terminal.

NOTE: For corresponding video signal, use the VCR IN terminal.

AC IN: Power input connector. Connects the supplied AC power cord to the appropriate AC outlet.

NOTE: The impedance is automatically set to 75 Ω by the input of a signal on the input connector while operating in a single connection mode. However, if a cable is connected to the output connector, the connection is placed into the open status by the multiple connection and high impedance automatically selected. Do not leave an unused cable connected to the monitor. If a single cable is used, then it must be connected to the input connector for the 75 Ω auto termination selector to function properly.

Figure 2: Location of Rear Connectors

6 OPERATION

6.1 Basic Operation

1. Press the Power switch to turn on the power. When the power is ON, the video selector indicator is lit. When the power is OFF, the video selector indicator is unlit.
2. Press (toggle) the Video button to choose VIDEO A or B. Press the VCR button to choose video from the VCR input.
3. Press the VOLUME button to adjust the speaker volume.

6.2 Picture Adjustment

To adjust the picture's Sharp, Tint, Color, Brightness or Contrast, press the appropriate button then adjust with the Volume button. Default for each setting is 50.

7 BASIC CONNECTIONS

The illustration in FIGURE 3 shows the basic connections for composite video equipment.

8 MAINTENANCE

If the quality of the picture on the monitor is poor and cannot be improved, check all system connections and cable runs. Service should only be performed by a qualified technician.

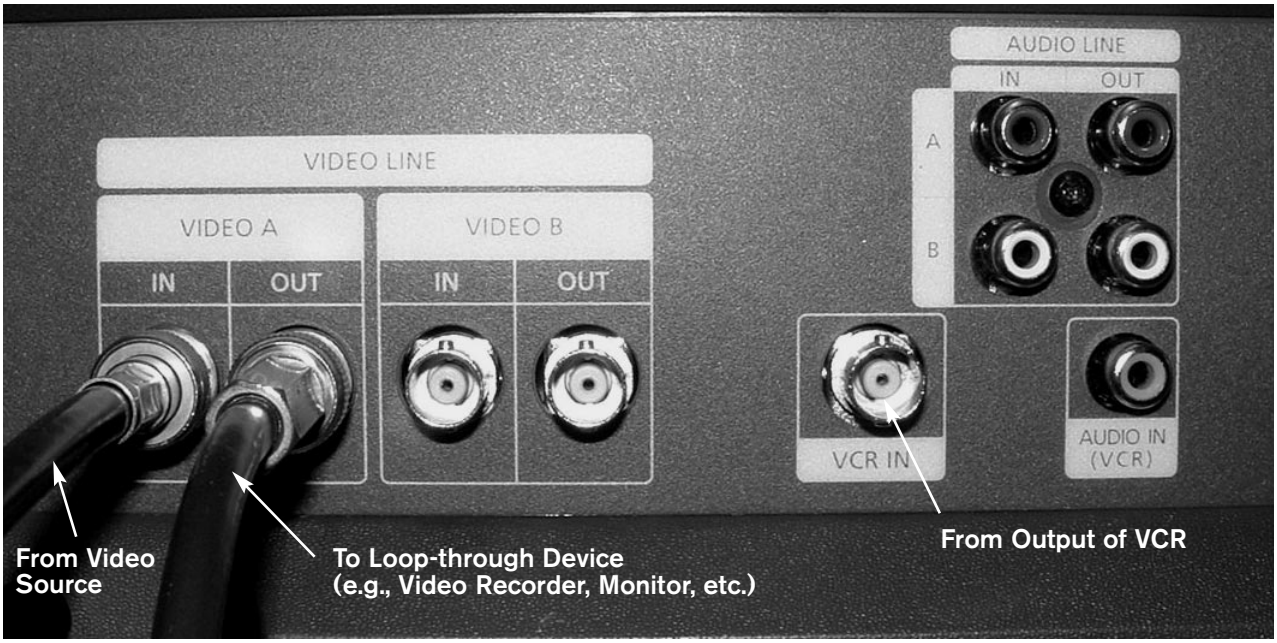

Figure 3: Basic Connections

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3935 890 47211 04-06 | Updated February 19, 2004 | Data subject to change without notice.

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